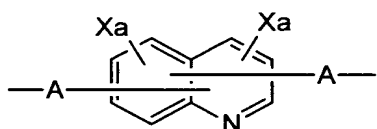


## Claims

1. A quinoline copolymer comprising a quinoline monomer unit and a branched structure monomer unit.

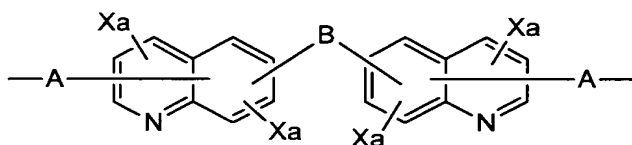
2. The quinoline copolymer according to Claim 1 wherein it is a copolymer comprising

a quinoline monomer unit represented by Formulae (I):



or

(I)



(in the formulae, each X is independently a substituent selected from the group consisting of  $-R^1$ ,  $-OR^2$ ,  $-SR^3$ ,  $-OCOR^4$ ,  $-COOR^5$ , and  $-SiR^6R^7R^8$  (here,  $R^1$  to  $R^8$  are independently a C1 to C22 straight-chain, cyclic, or branched alkyl group, or a C2 to C20 aryl or heteroaryl group), the substituents may be identical to or different from each other and are bonded to substitutable positions of the quinoline residue, and each  $\underline{a}$  is independently an integer of 0 to 3; each A is a group selected from the group consisting of a single bond and an arylene group; and B is a divalent linking group selected from the group consisting of a single bond,  $-O-$ ,  $-S-$ ,  $-C(O)-$ ,  $-S(O)-$ ,  $-S(O_2)-$ ,  $-W-$ ,  $-(-O-W-)_m-O-$  ( $\underline{m}$  is an integer of 1 to 3), and  $-Q-$  (W is a divalent group selected from the group consisting of  $-Ra-$ ,  $-Ar'-$ ,  $-Ra-Ar'-$ ,  $-Ra'-O-Ra'-$ ,  $-Ra'-C(O)O-Ra'-$ ,  $-Ra'-NHCO-Ra'-$ ,  $-Ra-C(O)-Ra-$ ,  $-Ar'-C(O)-Ar'-$ ,  $-Het'-$ ,  $-Ar'-S-Ar'-$ ,  $-Ar'-S(O)-Ar'-$ ,

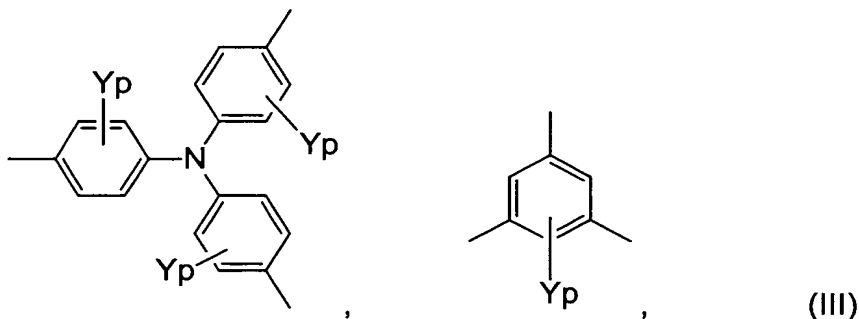
-Ar'-S(O<sub>2</sub>)-Ar'-, and -Ar'-Q-Ar'-, Ra is an alkylene group, Ar' is an arylene group, each Ra' is independently a group selected from the group consisting of an alkylene group, an arylene group, and a mixed alkylene/arylene group, Het' is a heteroarylene group, and Q is a divalent group containing a quaternary carbon)) and

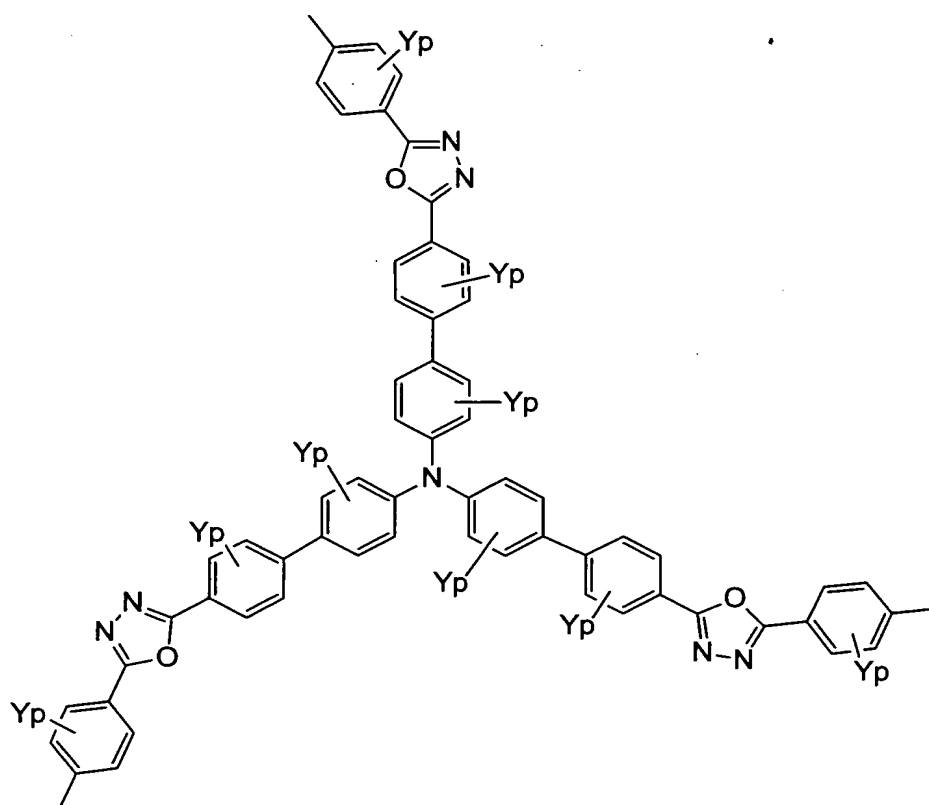
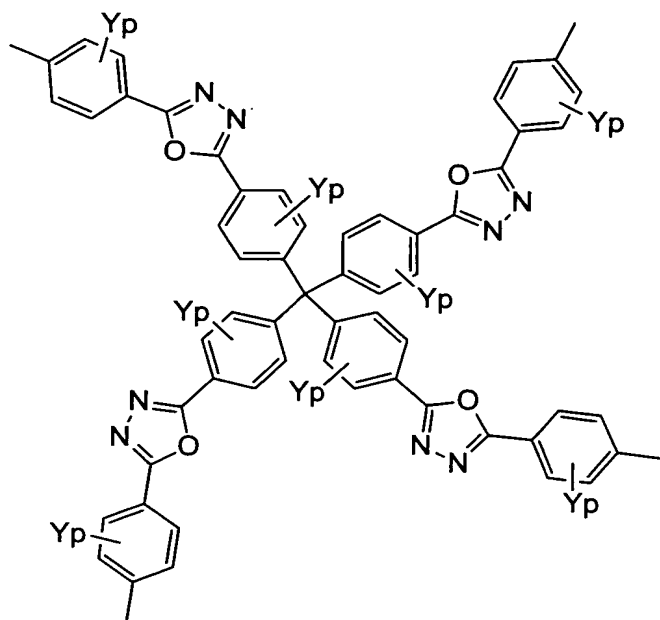
a branched structure monomer unit, which may have a substituent, and a group linking the monomer units is represented by Formula (II):



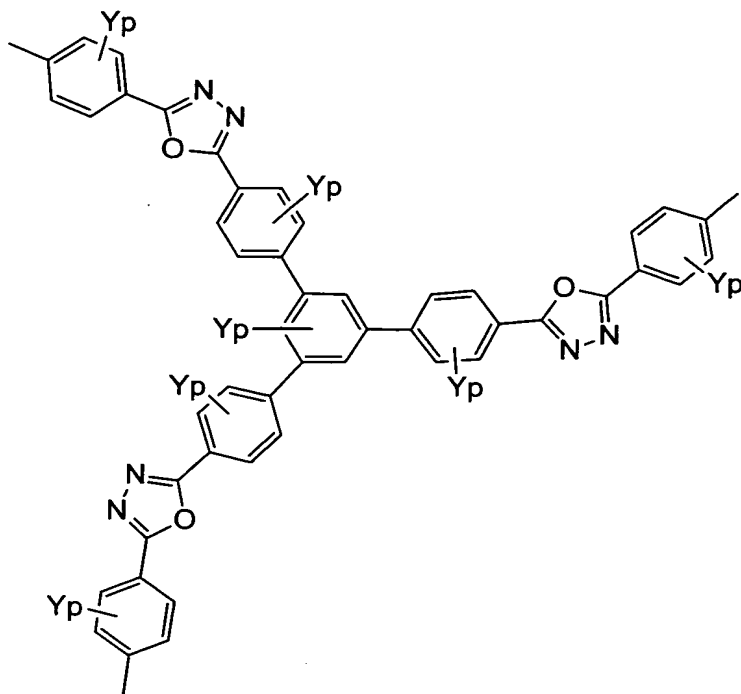
(in the formula, D is a divalent group selected from the group consisting of -O-, -S-, -NR-, -CR<sub>2</sub>-, -SiR<sub>2</sub>-, -SiR<sub>2</sub>-O-SiR<sub>2</sub>-, and -SiR<sub>2</sub>-O-SiR<sub>2</sub>-O-SiR<sub>2</sub>- (here, each R is independently a C1 to C22 straight-chain, cyclic, or branched alkyl group, or a C2 to C20 aryl or heteroaryl group), and b is an integer of 0 to 1).

3. The quinoline copolymer according to Claim 2, wherein the branched structure monomer unit, which may have a substituent, is represented by Formulae (III):





or



(in the formulae, each Y is independently a substituent selected from the group consisting of a halogen atom,  $-R^1$ ,  $-OR^2$ ,  $-SR^3$ ,  $-OCOR^4$ ,  $-COOR^5$ , and  $-SiR^6R^7R^8$  (here,  $R^1$  to  $R^8$  are independently a C1 to C22 straight-chain, cyclic, or branched alkyl group, or a C2 to C20 aryl or heteroaryl group), the substituents may be identical to or different from each other and are bonded to substitutable positions of the benzene ring in the branched structure skeleton, and  $p$  is an integer of 0 to 4).

4. The quinoline copolymer according to either Claim 2 or 3, wherein X in Formulae (I) is  $-R^1$  (here, each  $R^1$  is independently a C1 to C22 straight-chain, cyclic, or branched alkyl group or a C2 to C20 aryl group or heteroaryl group), and each  $a$  is independently an integer of 0 to 3.

5. The quinoline copolymer according to any one of Claims 2 to 4, wherein Y in Formulae (III) is  $-R^1$  (here, each  $R^1$  is independently a C1 to C22 straight-chain, cyclic, or branched alkyl group or a C2 to C20 aryl group or

heteroaryl group), and  $p$  is an integer of 0 to 4.

6. An organic electroluminescent device fabricated using the quinoline copolymer according to any one of Claims 1 to 5.